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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Franz Starlinger-Huemer

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7590

09/28/2006

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EXAMINER

LEYSON, JOSEPH S

ART UNIT

PAPER NUMBER

1722

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/521,527	STARLINGER-HUEMER ET AL.	
	Examiner	Art Unit	
	Joseph Leyson	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/14/05</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
  - (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
  - (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
  - (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
  - (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
  - (f) BACKGROUND OF THE INVENTION.
    - (1) Field of the Invention.
    - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
  - (g) BRIEF SUMMARY OF THE INVENTION.
  - (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
  - (i) DETAILED DESCRIPTION OF THE INVENTION.
  - (j) CLAIM OR CLAIMS (commencing on a separate sheet).
  - (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
  - (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).
2. The disclosure is objected to because of the following informalities: the disclosure (i.e., p. 1, paragraph 1) should not refer to the claims because claim subject matter can change during prosecution thereof.

Appropriate correction is required.

***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the subject matter of claims 9, 11 and 12 must be shown or the feature(s) canceled from the claim(s). **No new matter should be entered.**

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 2, 3, 6 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites "amounts to less than 10 cm, preferably less than 5 cm, and most preferably less than 3 cm" which is three separate ranges (i.e., a range within a range) making the metes and bounds of the claim unclear.

Claim 3 recites "at an angle ( $\beta$ ) of 60-120°, preferably at about a right angle" which is two separate ranges (i.e., a range within a range) making the metes and bounds of the claim unclear.

Claim 6 recites "devices for supporting the conveyance of material toward the discharge opening (6), in particular helical grooves or webs (7) and/or air nozzles (8)" which is two separate scopes (i.e., genus or species) making the metes and bounds of the claim unclear.

Claim 8 recites "can preferably be" making the claim indefinite as to whether or not the limitations thereafter are being positively claimed.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 4, 5, 7 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Billingsley (U.S. Patent 4,139,309).

Billingsley (U.S. Patent 4,139,309) teaches a device for the processing of plastic waste, including a shredding device 24, 32, 34 arranged in a casing 10 and rotatable around an axis of rotation of a shaft 24, which shredding device carries a plurality of knives 32a, 32b, 34a, 34b at its periphery, and an extruder 12 comprising an extruder screw 36, with the casing 10 comprising a feed opening for the supply of plastic waste to the shredding device 24, 32, 34 and a discharge opening for the delivery of shredded plastic waste to the extruder 12 (i.e., fig. 3), wherein the shredding device 24, 32, 34 has a horizontal axis of rotation and is arranged above the extruder 12, wherein the knives 32a, 32b, 34a, 34b disposed around the periphery of the shredding device are arranged in a helical manner so that they support the conveyance of synthetic material toward the discharge opening (i.e., fig. 3; col. 2, line 52, to col. 3, line 23), wherein the discharge opening is arranged roughly at the mid-point of the length of the shredding device 24, 32, 34 (i.e., fig. 3), and wherein the axis of rotation of the shredding device 24, 32, 34 runs in parallel to the axis of the extruder screw 36 (i.e., fig. 3). As shown in fig. 3, the shredding device and its knives 32a, 32b, 34a, 34b, respectively, are moved past the extruder screw 36 at a relatively small distance which creates gaps between the knives 32a, 32b, 34a, 34b of the shredding device and a helix of the extruder screw 36 which effectively shear the plastic waste therebetween. In other words, as shown in fig. 3, any material between the knives 32a, 32b, 34a, 34b and the screw 36 will receive shearing action during operation of the device.

8. Claims 1, 4, 6 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Ambrette et al. (U.S. Patent 3,114,933).

Ambrette et al. (U.S. Patent 3,114,933) teach a device for the processing of plastic material, including a shredding device 26-29 arranged in a casing 10, 22 and rotatable around an axis of rotation (i.e., either shaft 26 or 27), which shredding device carries a plurality of knives 28, 29 at its periphery, and an extruder comprising an extruder screw 15, with the casing 10, 22 comprising a feed opening for the supply of plastic material to the shredding device and a discharge opening 18 for the delivery of shredded plastic material to the extruder 15, wherein the shredding device 26-29 has a horizontal axis of rotation and is arranged above the extruder 15, wherein devices 12, 13 for supporting the conveyance of plastic material toward the discharge opening 18 are provided at the inner wall of the casing 10, 22, and wherein the axis of rotation of the shredding device 26, 27 runs in parallel to the axis of the extruder screw 15 (i.e., fig. 1). As shown in figs. 1 and 2, the shredding device and its knives 28, 29, respectively, are moved past the extruder screw 15 at a relatively small distance which creates gaps between the knives 28, 29 of the shredding device and a helix of the extruder screw 15 which effectively shear the plastic material therebetween. In other words, as shown in figs. 1 and 2, any material between the knives 28, 29 and the screw 15 will receive shearing action during operation of the device.

9. Claims 1, 3-5, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Crabb, Jr. (U.S. Patent 5,281,071).

Crabb, Jr. (U.S. Patent 5,281,071) teaches a device for processing material, including a shredding device 110 arranged in a casing 100 and rotatable around an axis of rotation, which shredding device 110 carries a plurality of knives 119, 120 at its

periphery, and an extruder 117 comprising an extruder screw 117 (i.e., fig. 7), with the casing 100 comprising a feed opening for the supply of the material to the shredding device 110 and a discharge opening 118 for the delivery of shredded material to the extruder 117, wherein the shredding device 110 has a horizontal axis of rotation and is arranged above the extruder 117, wherein the knives 119, 120 disposed around the periphery of the shredding device 110 are arranged in a helical manner so that they support the conveyance of synthetic material toward the discharge opening 118 (i.e., col. 5, lines 45-58), wherein the discharge opening 118 is arranged roughly at the midpoint of the length of the shredding device 110 (i.e., figs. 2, 6, 7), wherein the axis of rotation of the rotatable shredding device 110 is disposed relative to the rotational axis of the extruder screw 117 at about a right angle (i.e., fig. 7), and wherein a pocket-like expansion is provided as a buffer storage for material in the feed area of the extruder screw 117 (i.e., note the width of the casing relative to the discharge opening in fig. 7). As shown in fig. 7, the shredding device 110 and its knives 119, 120, respectively, are moved past the extruder screw 36 at a relatively small distance which creates gaps between the knives 119, 120 of the shredding device 110 and a helix of the extruder screw 117 which effectively shear the material therebetween. In other words, as shown in fig. 7, any material between the knives 119, 120 and the screw 117 will receive shearing action during operation of the device.

10. Claims 1, 3-7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Barth et al. (U.S. Patent 6,126,100).



Barth et al. (U.S. Patent 6,126,100) teach a device for processing plastic material, including a shredding device 3 arranged in a casing 1, 6, 41 and rotatable around an axis of rotation, which shredding device 3 carries a plurality of knives 37, 42, 43 at its periphery, and an extruder comprising an extruder screw 8, with the casing comprising a feed opening for the supply of the material to the shredding device 3 and a discharge opening 10 for the delivery of shredded material to the extruder 8, wherein the shredding device 3 has a horizontal axis of rotation and is arranged above the extruder 8, wherein the knives 37, 42, 43 disposed around the periphery of the shredding device 3 are arranged in a helical manner so that they support the conveyance of synthetic material toward the discharge opening 10 (i.e., fig. 6; col. 8, line 62, to col. 9, line 3), wherein the discharge opening 10 is arranged roughly at the mid-point of the length of the shredding device 3 (i.e., fig. 6), wherein the axis of rotation of the rotatable shredding device 3 is disposed relative to the rotational axis of the extruder screw 8 at about a right angle (i.e., fig. 6), wherein an air nozzle 44 is provided at the inner wall of the casing, and wherein the shredding device 3 cooperates with a driven slide 30 depending on the load on the axis of rotation of the shredding device 3 (col. 7, lines 60-67). The shredding device 3 and its knives 37, respectively, are moved past the extruder screw 8 nearly contacting (col. 8, lines 49-56) at a relatively small distance which creates gaps between the knives 37 of the shredding device 3 and a helix of the extruder screw 8 which effectively shear the material therebetween. In other words, any material between the knives 37 and the screw 8 will receive shearing action during operation of the device.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Billingsley (U.S. Patent 4,139,309), Ambrette et al. (U.S. Patent 3,114,933) and Crabb, Jr. (U.S. Patent 5,281,071).

Billingsley (U.S. Patent 4,139,309), Ambrette et al. (U.S. Patent 3,114,933) and Crabb, Jr. (U.S. Patent 5,281,071) each disclose the apparatus substantially as claimed, as mentioned above, except for the dimensions as recited by instant claim 2.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the device of any one of Billingsley (U.S. Patent 4,139,309), Ambrette et al. (U.S. Patent 3,114,933) and Crabb, Jr. (U.S. Patent

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5,281,071) with the dimensions of instant claim 2 because where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device, In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984).

14. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barth et al. (U.S. Patent 6,126,100).

Barth et al. (U.S. Patent 6,126,100) disclose the apparatus substantially as claimed, as mentioned above, except for the dimensions as recited by instant claim 2, or for the rotational speed of the extruder screw being adjusted depending on the load of the shredding device as recited by instant claim 8. Barth et al. (U.S. Patent 6,126,100) does disclose that the load on the shredding device (i.e., the force of slider 30 and/or the electric current consumption of the motor 34 of the shredding device 3) and the rotational speed of the extruder (i.e., the electric current consumption of the motor of the extruding) are related variables in controlling flow conditions of the material.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the device of Barth et al. (U.S. Patent 6,126,100) with the dimensions of instant claim 2 because where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the

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prior art device, the claimed device is not patentably distinct from the prior art device, In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); or to modify the device of Barth et al. (U.S. Patent 6,126,100) wherein the rotational speed of the extruder screw is adjusted depending on the load of the shredding device determined by the electric consumption of the motor of the shredding device because Barth et al. (U.S. Patent 6,126,100) discloses that such variables are related for controlling the flow conditions of the material.

15. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Billingsley (U.S. Patent 4,139,309), Ambrette et al. (U.S. Patent 3,114,933) and Barth et al. (U.S. Patent 6,126,100) in view of Bacher et al. (U.S. Patent 5,783,225).

Billingsley (U.S. Patent 4,139,309), Ambrette et al. (U.S. Patent 3,114,933) and Barth et al. (U.S. Patent 6,126,100) each disclose the apparatus substantially as claimed, as mentioned above, except for the limitations as recited by instant claim 9.

Bacher et al. (U.S. Patent 5,783,225) disclose pocket-like expansions 23, 24 in the feed area of an extruder screw to provide additional filling space for the extruder screw (i.e., col. 8, lines 42-67).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the device of any one of Billingsley (U.S. Patent 4,139,309), Ambrette et al. (U.S. Patent 3,114,933) and Barth et al. (U.S. Patent 6,126,100) with pocket-like expansions in the feed area of an extruder screw because

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such a modification would provide additional filling space for the extruder screw as disclosed by Bacher et al. (U.S. Patent 5,783,225).

16. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Billingsley (U.S. Patent 4,139,309), Ambrette et al. (U.S. Patent 3,114,933), Crabb, Jr. (U.S. Patent 5,281,071) and Barth et al. (U.S. Patent 6,126,100) in view of Umehara et al. (U.S. Patent 5,114,331).

Billingsley (U.S. Patent 4,139,309), Ambrette et al. (U.S. Patent 3,114,933), Crabb, Jr. (U.S. Patent 5,281,071) and Barth et al. (U.S. Patent 6,126,100) each disclose the apparatus substantially as claimed, as mentioned above, except for the limitations as recited by instant claim 11.

Umehara et al. (U.S. Patent 5,114,331) disclose an extruder screw 4a, 4b which is widened to a large diameter in a material feed area and tapers conically toward a material discharge end which enables compression of the material to gradually increase the material density (i.e., col. 7, lines 4-14).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the device of any one of Billingsley (U.S. Patent 4,139,309), Ambrette et al. (U.S. Patent 3,114,933), Crabb, Jr. (U.S. Patent 5,281,071) and Barth et al. (U.S. Patent 6,126,100) such that the extruder screw is widened to a large diameter in a material feed area and tapers conically toward a material discharge end because such a modification would enable compression of the material to gradually increase the material density, as disclosed by Umehara et al. (U.S. Patent 5,114,331).

### ***Conclusion***

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17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fate (U.S. Patent 505,975) and Locatelli (U.S. Patent 3,059,595) are cited as of interest to show the state of the art.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Leyson whose telephone number is (571) 272-5061. The examiner can normally be reached on M-F 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gupta Yogendra can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
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9/26/06